

# Order of Operations

Two students evaluated this expression:  $(3+5.4) + 5.2 \times 10^2$

You try it now....

Student A

$$\begin{aligned} & (3+5.4) + \underline{5.2 \times 10^2} \\ & \textcircled{=8.4} + 5.2 \times 10^2 \cdot \\ & =13.6 \times 10^2 \\ & =13.6 \times 100 \\ & =1360 \end{aligned}$$

Student B

$$\begin{aligned} & \underline{(3+5.4)} + \underline{5.2 \times 10^2} \\ & \textcircled{=8.4} + 5.2 \times 10^2 \\ & =8.4 + 52^2 \\ & =8.4 + 2704 \\ & =2712.4 \end{aligned}$$

How did they do?

How would you do it?

$$(\underline{3+5.4}) + 5.2 \times 10^2$$

$$= 8.4 + 5.2 \times 10^2$$

$$= 8.4 + 5.2 \times 10 \times 10$$

$$= 8.4 + 52 \times 10$$

$$= 8.4 + 520$$

$$= 528.4$$

BEDMAS or more accurately,

B - Brackets

E - Exponents

DM - Division or Multiplication in order from left to right

AS - Addition or subtraction in order from left to right

Last try together:

$$15.5^2 - 2.4 \times (3.1 + 4.7)^2$$

B ✓

E ✓

DM

AS

$$= 15.5^2 - 2.4 \times 7.8^2$$

$$= 15.5 \times 15.5 - 2.4 \times 7.8^2$$

$$= 15.5 \times 15.5 - 2.4 \times 7.8 \times 7.8$$

$$= 240.25 - 2.4 \times 7.8 \times 7.8$$

$$= 240.25 - 18.72 \times 7.8$$

$$= 240.25 - 146.016$$

$$= 94.234$$

B  
E

Homework:

1 a-d

2-a-d

3

6ab

7ab

9

Pg 27

1.

$$\begin{array}{l}
 \text{B} \quad \text{E} \quad \text{D} \quad \text{Ans} \\
 \text{①} \quad \text{②} \quad \text{③} \quad \text{④} \\
 7 \times 12 - 48 = 84 - 48 \\
 \text{Do } 13+ \quad \text{copy} \quad = 36
 \end{array}$$

$$\begin{aligned}
 15 + 3 + 12 - 6 &= 18 + 12 - 6 \\
 &= 30 - 6 \\
 &= 24
 \end{aligned}$$

$$\begin{aligned}
 (5 + 6) \times 11 &= 11 \times 11 \\
 &= 121
 \end{aligned}$$

$$\begin{aligned}
 (34 + 46) - 5 \times 11 &= 80 - 5 \times 11 \\
 &= 80 - 55 \\
 &= 25
 \end{aligned}$$

2.

$$3.2 \times 10^4 = 3.2 \times 10 \times 10 \times 10 \times 10$$
$$= 32000$$

$$66.15 \div 10.5^2 =$$

$$18.3 - (7.2 - 3.5)^2$$

$$(22.3 + 1.1)^2 - (22.3 - 1.1)^2$$



3. Cody bought 3 dvds at \$24.99 each and 2 cds at \$14.99 each.

Write an expression to show how much he paid before taxes.

6

a)  $10 + 2 \times 3^2 - 2 = 106$

b)  $10 + 2 \times 3^2 - 2 = 24$

7

a)  $20 \div 2 + 2 \times 2^2 + 6 = 26$

b)  $20 \div 2 + 2 \times 2^2 + 6 = 26$

Skylar wants to join a local gym. The cost in dollars for a membership can be expressed as  $100 + 39.99m$

where 100 is the initial fee and 39.99 is the fee per month, and  $m$  is the number of months that they sign up for.

How much will it cost him to sign up for 24 months?

